Original Article

Clinical and Social Determinants of Duration of Untreated Psychoses

S Sudakar[1], P Poorna Chandrika[2], Heber Anandan[3]

[1]Assistant Professor, Department of Psychiatry, Chengalpet Medical College Hospital, Kanchipuram, Tamil Nadu, India, [2]Associate Professor, Institute of Mental Health Madras Medical College, Chennai, Tamil Nadu, India, [3]Senior Clinical Scientist, Department of Clinical Research, Dr. Agarwal's Healthcare Limited, Tirunelveli, Tamil Nadu, India

Abstract

Introduction: Outcome of schizophrenia has been repeatedly demonstrated to be "good" and "favorable," which generally implies that most of the patients treated adequately are able to maintain a reasonable quality of life, remain free from distressing symptoms, can function at a moderate level and live a life outside psychiatric institutions in the community.

Aim: To study clinical and social determinants of duration of untreated psychoses in drug naïve schizophrenic patients.

Methods: 100 consecutive patients diagnosed and admitted as inpatient schizophrenia in institute of mental health, Madras Medical College Hospital. Study variables include scales scale for assessment of positive symptoms (SAPS), scale for assessment of negative symptoms (SANS), CGI-SCH, and global assessment of functioning were given and age criteria 18-45 years, drug naïve patients and patients with a diagnosis of schizophrenia.

Results: A total of 100 patients were selected for the study of which 97 was obtained assessed at baseline with SAPS and SANS for psychopathology, PSA scale to assess premorbid functioning, duration of untreated psychosis and a sociodemographic profile were obtained, 63 patients were assessed at 8 weeks of follow-up for psychopathology.

Conclusion: Longer duration of untreated psychoses is associated with higher age at presentation, higher negative symptoms, and poor premorbid functioning. Improved patients have a shorter duration of untreated psychoses and better premorbid functioning than unimproved patients.

Key words: Duration of untreated psychosis, Psychopathology, Schizophrenia

INTRODUCTION

A large number of studies have examined the prognostic value of premorbid sociodemographic and psychopathological factors on outcome in schizophrenia.[1-3] More recently several groups of investigators have proposed that a long duration of untreated psychosis (DUP) initially may also affect long-term outcome in schizophrenia.[4] A recent meta-analysis of the more methodologically robust studies of duration of untreated psychoses and outcomes by Marshall *et al.* suggests there is a modest association between duration of untreated psychoses and outcomes and that this holds independently of premorbid adjustment.[5] Using data collected as part of study of first onset psychoses we sought to investigate the relationship between DUP and both clinical and social variables, specifically, we sought to test the hypotheses that there is no significant association of duration of untreated psychoses and type of family and mode of onset or socioeconomic status or age and gender.

METHODS

A total of 100 consecutive patients admitted as inpatients in the institute of mental health, fulfilling the ICD-10 criteria for schizophrenia and who were never treated outside were included in the study age group was within 18-45 years and drug naïve patients with reliable informants. After complete description of study, written informed consent was obtained from the participants. Exclusion criteria were

Corresponding Author: Heber Anandan, Dr. Agarwal's Eye Hospital, No. 10. South By-Pass Road, Vannarpettai, Tirunelveli - 627 003, Tamil Nadu, India. E-mail: clinicalresearch@dragarwal.com

patients under age of 18 years or above 45 years, and a history of head injury, evidence of psychotic symptoms precipitated by an organic cause; previous treatment for psychosis; transient psychotic symptoms resulting from acute intoxication as defined by ICD-10.

Data relating to date of onset of psychosis were collated from interviews with the patient and a close relative of the patient. We asked when the patient first experienced or when the family members first noticed psychotic symptoms DUP was defined as the period in weeks from the onset of psychosis to first contact with statutory mental health services. In line with previous studies (Craig *et al.*, 2000 and Morgan *et al.*, 2006) onset of psychosis was defined as the presence for 1 week or more of one of the following psychotic symptoms: Delusions; hallucinations; marked thought disorder; marked psychomotor disorder; bizarre, grossly inappropriate and/or disorganized behavior with a marked deterioration in function. A rating of onset was made only when there was a clear, unequivocal description from any source of symptoms meeting these criteria. In this study, the end point was considered as admission to the hospital. Our end-point, therefore, was contact with mental health services. Schizophrenia was diagnosed as per ICD-10 criteria for schizophrenia.

RESULTS

During our study period, 100 consecutive patients were screened, evaluated, and entered into the study out of which 3 patients were excluded, one patient was found to be HIV positive and 20 patients were found missing from ward. 97 patients were available at baseline assessment was done.

The correlation of log DUP with psychotic and disorganized symptom domain was nonsignificant ($P > 0.05$). There is a significant correlation between DUP and negative symptoms domain at baseline presentation ($P < 0.05$) (Table 1).

Among the improved group of patients, 58.5% were paranoid subtype, 2.4% were hebephrenic type, 2.4% were catatonic type, and 36.6% were of undifferentiated subtype. In the unimproved group, 36.4% were paranoid type, 4.5% were hebephrenic type, and 59.1% were of undifferentiated subtype the difference was not statistically significant (Table 2). Among the improved group, 12.2% were uneducated, 24.4% were educated up to primary level and 29.3% update secondary level. The difference was not statistically significant (Table 3).

Among the improved group of patients, 51.2% were males and 48.8% were females. In the unimproved group, 50% were males and 50% were females, the difference was not statistically significant (Table 4).

In the improved group, 82.9% were from lower socioeconomic group, 14.7% were from middle socioeconomic group, and 2.4% belonged to higher socioeconomic group in the unimproved group 72.7% were from the lower socioeconomic group, 22.8% were from the middle socioeconomic group, and 4.5% belonged to higher socioeconomic group the difference was not statistically significant. As our study was done at a government institute, majority of the individual were from the lower socioeconomic classes (Table 5).

Table 1: Clinical variables of DUP

Log DUP	Correlation coefficient	P value
Psychotic domain	0.021	0.838
Disorganized	0.192	0.061
Negative	0.256	0.011
Premorbid social adjustment score	0.334	0.001

DUP: Duration of untreated psychosis

Table 2: Comparison of groups by diagnosis

Diagnosis	Improved (%)	Unimproved (%)	Total	P value
	n (58.5)	n (36.4)		
Paranoid	24 (2.4)	8 (4.5)	32	0.281
Hebephrenic	1 (2.4)	1	2	
Catatonic	1 (36.6)	0 (59.1)	1	
Undifferentiated	15 (100)	13 (100)	28	
Total	41	22	63	

Table 3: Social variables of DUP

Education	Improved (%)	Unimproved (%)	Total	P value
Uneducated	5 (12.2)	3 (13.6)	8	0.401
Primary	10 (24.4)	7 (31.8)	17	
Secondary	12 (29.3)	6 (27.3)	18	
High school	3 (7.3)	4 (18.2)	7	
Graduate	11 (26.8)	2 (9.1)	3	

DUP: Duration of untreated psychosis

Table 4: Gender wise distribution of DUP

Gender	n (%)		Total	P value
	Improved	Unimproved		
Male	21 (51.2)	11 (50.0)	32	0.092
Female	20 (48.8)	11 (50.0)	31	
Total	63 (100)	22 (100)	63	

DUP: Duration of untreated psychosis

Table 5: Sociodemographic variables and DUP

Socioeconomic	n (%)		Total	P value
	Improved	Unimproved		
Status				
Low	34 (82.9)	16 (72.7)	50	0.591
Middle	6 (14.7)	5 (22.8)	11	
High	1 (2.4)	1 (4.5)	2	
Total	41 (100)	22 (100)	63	

DUP: Duration of untreated psychosis

DISCUSSION

There is no significant association between the subtypes of schizophrenia with the duration of untreated psychoses at baseline assessment only few studies have studied the relation of diagnostic subtypes with DUP and have not found any significant association. In our study, premorbid functioning is found to have a positive correlation with duration of untreated psychoses, showing that poor premorbid functioning is associated with a longer DUP than those with a better premorbid functioning, this finding is similar to the studies done by Verdoux *et al.*[6] The correlation of DUP with symptom severity at baseline in this study has found a significant positive correlation with negative symptoms, but not with the disorganization and psychotic symptom domain. This finding is similar to the studies that have found a longer DUP to be associated with higher levels of negative or deficit symptoms at first presentation.[7] The negative correlation of DUP with psychotic symptoms domain in the study, though not significant implies that schizophrenic patients with positive symptoms seek treatment earlier and hence have a shorter duration of untreated psychoses. Drake *et al.* reported that longer DUP was associated with higher positive symptoms at presentation which is not found in our study. Some of the studies do not find any such association between DUP and baseline symptoms.[8-10] The total number of patients at 8 weeks assessment dips 63 (65%) and the follow-up rate is considerably lower when compared to most other studies, both Indian and studies done in western countries. The poor attrition rate could not be explained by any of the sociodemographic and clinical variables and the duration of untreated psychoses, a finding similar to the study done by Harrigan *et al.*,[10] where they compared between those who completed follow-up and those who did not. Information regarding the reasons for dropout was not available as those patients and their relatives could not be traced by any means.

The role of sociodemographic variables in determining the duration of untreated psychoses has given contrasting results across various studies. Studies have shown that males have a longer DUP than females but we could not establish any such difference in gender to be associated with DUP. Numerous studies have not reported any relation of DUP with gender.

The finding of a significant positive correlation of DUP with the age at first presentation shows that the duration of untreated psychoses increases as the age at first presentation to treatment increases. The result being similar to the findings of Padmavathi *et al.*[2] that never treated patients were older in age and ill for a longer duration and were more symptomatic and severely disabled. This finding is in contrary to other studies that have not found a. association between age and DUP.

There is no significant correlation of duration of untreated psychoses with the educational level, marital status, and socioeconomic status at baseline assessment, a finding which is similar to most other studies. One study in India has reported that untreated patients were most often uneducated and divorced and such a finding is not found in our study. In our study, we found no correlation between DUP and employment. A finding contrary to the report of Morgan *et al.*[11] that unemployment has a less strong effect on duration of untreated psychoses.

Some of the Indian studies have reported that a longer duration of untreated illness in schizophrenic patients was due to the larger extended joint family, which was able to compensate and cope with the dysfunctional member, concluding that such family system seemed to be a crucial factor related to the delay in treatment. In our study, although 70% of the patients were in the joint family system, there was no significant correlation of family type with DUP, in the West London first episode study of schizophrenia most of the patients were living alone or homeless. However, this study carried out in a government institute has its limitations regarding demographic variables such as educational status, socioeconomic status, and employment.

CONCLUSION

The findings from this study suggest that a longer duration of untreated psychoses is associated with increased age at presentation, higher negative symptoms, and poor premorbid functioning; it also shows that improved patients have a shorter duration of untreated psychoses and better premorbid functioning than the unimproved patients but the association is not significant after the confounding factors were controlled. This study concludes that duration of untreated psychoses is not an independent predictor of outcome as stated in literature. It is conceivable that the reported better outcome for schizophrenia in India is unlikely to be because of shorter DUP.

REFERENCES

1. van Os J, Linscott RJ, Myin-Germeys I, Delespaul P, Krabbendam L. A systematic review and meta-analysis of the psychosis continuum: Evidence for a psychosis proneness-persistence-impairment model of psychotic disorder. Psychol Med 2009;39:179-95.
2. Padmavathi R, Rajkumar S, Srinivasan TN. Schizophrenic patients who were never treated - A study in an Indian urban community. Psychol Med 1998;28:1113-7.
3. Jönsson SA, Jonsson H. Outcome in untreated schizophrenia: A search for symptoms and traits with prognostic meaning in patients admitted

to a mental hospital in the preneuroleptic era. Acta Psychiatr Scand 1992;85:313-20.

4. Penttilä M, Hirvonen N, Isohanni M, Jääskeläinen E, Miettunen J. 1642 - The association between duration of untreated psychosis (DUP) and long-term outcome in schizophrenia. A systematic review and meta-analysis. Eur Psychiatry 2013;28:1.

5. Marshall M, Lewis S, Lockwood A, Drake R, Jones P, Croudace T. Association between duration of untreated psychosis and outcome in cohorts of first-episode patients: A systematic review. Arch Gen Psychiatry 2005;62:975-83.

6. Verdoux H, Liraud F, Bergey C, Assens F, Abalan F, van Os J. Is the association between duration of untreated psychosis and outcome confounded? A two year follow-up study of first-admitted patients. Schizophr Res 2001;49:231-41.

7. Perkins DO, Gu H, Boteva K, Lieberman JA. Relationship between duration of untreated psychosis and outcome in first-episode schizophrenia: A critical review and meta-analysis. Am J Psychiatry 2005;162:1785-804.

8. Loebel AD, Lieberman JA, Alvir JM, Mayerhoff DI, Geisler SH, Szymanski SR. Duration of psychosis and outcome in first-episode schizophrenia. Am J Psychiatry 1992;149:1183-8.

9. Haas GL, Garratt LS, Sweeney JA. Delay to first antipsychotic medication in schizophrenia: Impact on symptomatology and clinical course of illness. J Psychiatr Res 1998;32:151-9.

10. Harrigan SM, McGorry PD, Krstev H. Does treatment delay in first-episode psychosis really matter? Psychol Med 2003;33:97-110.

11. Morgan C, Abdul-Al R, Lappin JM, Jones P, Fearon P, Leese M, *et al*. Clinical and social determinants of duration of untreated psychosis in the AESOP first- episode psychosis study. Br J Psychiatry 2006;189:446-52.

How to cite this article: Sudakar S, Chandrika PP, Anandan H. Clinical and Social Determinants of Duration of Untreated Psychoses. Int J Sci Stud 2017;4(10):90-93.

Source of Support: Nil, **Conflict of Interest:** None declared.